

***PEAR* HANDBOOK**



GUIDELINES FOR THE PREPARATION OF THE PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

December 2001

PREFACE

The Preliminary Environmental Analysis Report (PEAR) is an important part of the Project Study Report (PSR). The PEAR provides the initial environmental evaluation of a project and all feasible alternatives before it is programmed in the State Transportation Improvement Program (STIP) or State Highway Operation and Protection Program (SHOPP). Because the environmental process can have a substantial impact on the project alternatives, design, costs, schedule, and delivery, the PEAR must clearly present and discuss the results of preliminary environmental studies in order to identify environmental constraints that may affect design. The PEAR also estimates the scope, schedule, and costs associated with completing environmental compliance. The information contained in the PEAR serves as the foundation for the environmental team to begin studies in the Project Report phase, facilitating early consultation with Federal and State resource agencies.

Realizing the importance of the PEAR, District 3 Environmental Planner/ Generalist Daryl Noble wrote “A Handbook for the Preparation of Preliminary Environmental Analysis Reports” in 1988. The handbook has served as a valuable guide for environmental planners in the North Region and consultants in their efforts to provide quality PEAR documents. In 1999, in light of changes that had occurred since the handbook was written, District 3 Environmental Office Chiefs Henry Bass and Jeff Loudon sponsored a quality team consisting of environmental and transportation planners from the North Region to evaluate PEARS being produced in the North Region. The team’s mission was to review, modify, and update the handbook to ensure that North Region PEARS continued to meet the needs of the Environmental Offices and it’s customers.

The North Region PEAR Quality team completed their review and evaluation of the PEAR process and revision of the existing handbook in May of 2000. Subsequently, the product of their labor, the revised PEAR Handbook, was approved for use by North Region Management. In addition, the team determined that the revised handbook should be made available to other Caltrans environmental staff and thus copies of the handbook were distributed in printed and electronic forms.

Given the value of the PEAR and the wide acceptance of the revised Handbook, the Department’s HQ Division of Environmental Analysis (HQ-DEA) is now requiring the preparation of a PEAR in support of all Project Study Report –Project Development Support (PSR-PDS) documents and has adopted the PEAR Handbook as the Department’s standard guidance for the preparation of preliminary environmental analyses. The Handbook has been revised by the HQ-DEA staff to reflect the distinctions between developing a PEAR to support a PSR-PDS versus a traditional PSR., and to enhance its applicability on a statewide basis by deleting references to North Region procedures and practices.

The HQ-DEA wishes to express its appreciation to the North Region PEAR Quality Team and North Region Management for their efforts in bring forth this guidance.

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1. INTRODUCTION

This handbook has been prepared as a guide for writing Preliminary Environmental Analysis Reports (PEARs) for summation in and attachment to Project Study Reports (PSRs). Preparation of a PEAR is required for all Project Study Report–Project Development Support (PSR-PDS) documents which are used to program a project's development support costs in the State Transportation Improvement Program (STIP). Preparation of a PEAR is highly recommended for all other projects requiring the preparation of a traditional PSR.

The handbook contains background information, PEAR request requirements, a description of the contents of a PEAR, analytical methods and responsibilities of environmental team members.

2. PSR BACKGROUND

The PSR is an engineering report that identifies the transportation problem (purpose and need), alternatives to be studied, and key issues that must be investigated. The report also documents agreement on the scope, schedule, and estimated cost of a project. PSRs are used by Caltrans for programming purposes on certain projects that are candidates for the State Highway Operations Protection Program (SHOPP) and the Toll Bridge Program in addition to STIP projects. Caltrans Districts are responsible for the preparation and approval of all PSRs on the State Highway system. Occasionally, Caltrans will provide oversight on PSRs prepared by local agencies for State Highway projects. PSRs are prepared under the guidance of a California Registered Civil Engineer and are approved by the District Director.

There are two types of PSRs. The first, a standard PSR, identifies the scope, schedule, and estimated cost of a project, including the capital outlay components through Right of Way acquisition and Construction. The second type of PSR, a PSR-PDS, facilitates programming of STIP projects while meeting the legal requirements of completing a Project Study Report. The PSR-PDS identifies only the scope, schedule, and resources necessary to advance the project through Project Approval and Environmental Documentation (PA&ED). Detailed Right of Way and Construction cost estimates are deferred until after the project is approved. A supplemental PSR or a Project Report is then used to program the remaining support (i.e., development of PS&E) and capital components (Right of Way acquisition and Construction) of the project. The cost of mitigation measures is a capital expense and is thus programmed along with Right of Way and Construction costs.

In accordance with the implementation of Change Control in July 2000, all STIP projects requiring an environmental document (Negative Declaration/Finding of No Significant Impact (ND/FONSI)s or Environmental Impact Report/Statements) shall use a PSR-PDS to program the capital support component of the project. STIP projects that are statutorially or categorically exempt under CEQA or categorically excluded under NEPA shall use the standard PSR. SHOPP projects use Project Scope Summary Reports (PSSRs) to program support and capital costs.

PSR development begins with an initial Project Development Team (PDT) meeting. The PDT is comprised of staff from the various Caltrans functional units as well as affected local and regional agencies. Early in the PSR development process, the team agrees on the purpose and need as well as the preliminary scope of the project. Once the scope and initial project alternatives are identified, the Design Office provides the Environmental Office with the appropriate mapping and typical cross sections and formally requests the PEAR. Projects subject to the NEPA/404 MOU require consultation with the MOU signatories on project purpose and need and alternatives to be studied in the environmental document.

The level of effort involved in producing the PEAR is similar for either a PSR or a PSR-PDS. However, detailed mitigation cost estimates are premature for the PSR-PDS. Mitigation costs are capital expenditures that will be identified and programmed after PA&ED. The PEAR includes a summary of specific, critical environmental issues which may affect project approval, programming, scheduling, design considerations, and/or cost. The magnitude and complexity of the proposed project dictates the effort expended for PEAR documentation. Since there can be significant effects on the cost and schedule of future phases of work, clear PEAR documentation on complex projects, especially those involving multiple alternatives, is essential.

3. REQUESTING A PEAR

The request for a PEAR should be submitted to Chief of the appropriate Environmental Office. It is recommended that the request follow the content requirements outlined below, embodied in the example “Environmental Study Request” form (Exhibit 1), and that the request be accompanied with a transmittal memo outlining the project and the requested PEAR due date. This request form serves as a means to provide the information that the environmental staff needs to respond to the request.

Aerial photos and preliminary right-of-way maps must be included as attachments to the Environmental Study Request. These maps show the Environmental Study Limits and additional project information (refer to list below). The Project Manager, Project Engineer and the Environmental Planner Generalist (Generalist) together determine how many copies of the request are required for a particular project.

PEAR SUBMITTAL REQUIREMENTS*

- Memo summarizing the PEAR request and date needed.
- Completed Environmental Study Request form.
- Project Location Map.
- Aerial photos (scale: 1/200) of the project. Include beginning and ending post kilometers/miles and the names of cross roads or other distinguishing landmarks.
 - Existing and Proposed Centerline
 - Existing and Proposed R/W
 - Utility Relocations, if known
 - Location of Cut and Fill Lines, if known
 - Staging Areas and Access Roads, if known
 - Approximate Limits of Ground Disturbance (footprint)
 - Drainage improvements
 - Topographic features
 - North Arrow and Scale
 - Easements, permanent and temporary, if known
 - Proposed borrow and disposal sites, if known (refer to statewide Disposal Site Quality Team procedures).
- Proposed construction year, project category, and funding source (standard PSR only).
- Detailed description of the project
- Purpose and need statement for the project.
- Project Alternatives
- A typical cross-section of the project.
- Target completion date for the PSR.
- Right-of-Way Maps, if available.

* Note: If some items noted above are not available at the time the PEAR is requested, some studies may still begin while the other pertinent material is being developed. However, delays due to incomplete information may result in the need to reschedule the proposed completion of the PEAR.

4. ENVIRONMENTAL OFFICE RESPONSIBILITIES

Environmental Office Chief Responsibilities

The Environmental Office Chief, or designee, is responsible for planning, providing the necessary resources, and supervising the environmental personnel in order to complete the PEAR by the agreed upon date. This person must prioritize and assign work to coordinators and specialists, monitor progress, attend meetings as required, comment, review and approve the draft and final PEAR documents, and specialist studies in a timely manner. Coordination between specialists and supervisors not within the Environmental Office is required when specialists from other District functions are needed.

Environmental Planner Generalist (Generalist) Responsibilities

The Generalist is the environmental team leader, coordinating the activities of a multi-disciplinary team of environmental generalists and specialists. The Generalist is responsible for preparing a PEAR that

accurately summarizes the information generated by the environmental specialists in order to provide a project scope and resources estimate.

GENERALIST'S RESPONSIBILITIES

- Attend Project Development Team (PDT) meetings as the environmental representative.
- Coordinate with the Design team in developing PEAR request information and developing the draft Purpose and Need.
- Review PEAR request for completeness.
- Draft a schedule for completion of studies.
- Distribute project information to the environmental specialists.
- Monitor the progress of specialists studies for problems or delays
- Prepare the draft PEAR; coordinate internal review of the draft.
- Transmit the final PEAR to the Environmental Office Chief and the Project Manager for review and approval.
- Transmit the approved PEAR to the Project Engineer, Project Manager, and Environmental File

Following preparation of the Draft PEAR, the Generalist circulates it to the environmental specialists, Project Engineer, and Project Manager for review. After review, the completed PEAR is submitted to the Environmental Office Chief and Project Manager for approval and then transmitted to the requesting Office.

As a PDT representative, the Generalist also reports to the PSR Project Engineer and the PDT on the status of special studies and current environmental issues, how any potential problems are being handled and resolved, and the ability to meet the agreed upon deadline. In these meetings, the Generalist also discusses potential scheduling, cost, and consequences of project alternatives that may adversely affect identified environmental resources. Additionally, the Generalist should identify any additional data required to complete the PEAR.

The Generalist may have the technical specialists, HQ Division of Environmental Analysis (HQ-DEA) Staff and/or the PSR Office, as applicable, review and comment on the draft PEAR depending on project size, complexity, and political sensitivity prior to its completion and delivery.

Specialist Responsibilities

Various environmental specialists will contribute technical analysis input for the PEAR. Their responsibilities are much the same in terms of procedure and report structure, but differ regarding report contents.

AREAS OF ENVIRONMENTAL STUDIES

- Cultural Resources
- Tribal Lands / Tribal Coordination
- Biology
- Air Quality
- Noise
- Energy
- Water Quality
- Floodplains
- Hazardous Waste
- Scenic / Visual Resources
- Paleontological Resources
- Socioeconomic / Community Impacts
- 4(f) Issues

Reporting By The Specialists

Specialists will submit a report of their findings to the Generalist. The reports should the project setting, type of survey conducted, summary of literature search and findings, and discussion as to the effects that the project might have on resources within or adjacent to the project area. Additionally, the individual reports should: 1) identify any further studies that are necessary; 2) recommend possible mitigation and alternatives; 3) determine what permits, approvals and/or coordination must be completed; 4) provide an outline of a time schedule for that activity, such as Section 106 compliance, or Section 7 consultation; and, 5) conclude with a summary that the Generalist may include in the PEAR.

SPECIALISTS RESPONSIBILITIES

- Conduct a Literature Search
- Perform a Windshield, Photo log, and/or on the ground Survey
- Prepare a Report
 - Project Description
 - Environmental Setting
 - Resources Identified and Sensitivity
 - Potential Effects, Probable Permits and Mitigation
 - Contacts/Sources Consulted
 - Recommendations
 - Mitigation Cost Estimate for standard PSRs only
 - Resources by WBS Codes
 - Summary

The report should make note of any possible situations which might affect the alternatives, cost, or viability of the project. All known resources or possible areas of resource sensitivity shall be plotted on the aerial map provided by the Generalist and attached to the report. Finally, the report should include a

cost estimate for mitigation for each alternative and an estimate of the resources needed for the project by Work Breakdown Structure (WBS) Code. The report should include any post-construction, long-term/maintenance or monitoring that may be required.

5. PEAR ANALYSIS METHODS – GENERAL

The environmental staff performs the PEAR studies for the project commensurate with the magnitude of potential impacts of the project and the environmental sensitivity of the area. The completed PEAR will provide sufficient information to accurately estimate the resources required for project delivery. A standard PEAR will also estimate the mitigation costs and resources needed to implement the mitigation measures.

Preliminary Review

The preliminary project review involves evaluating the project submittal, reviewing Caltrans photo log and aerials, and performing a background search including the GIS databases. The background search may involve contacting various governmental agencies with interest or expertise relevant to the project. Pertinent literature sources, such as previous environmental documents written for projects near the proposed project area and specialty-specific material should be checked. Use the photo log and aerial photographs to determine potentially sensitive areas and possible areas to focus further studies. A preliminary project review, prior to the field visit, should be performed, if possible.

Project Site Review

The next step is to review the project site. Some projects will not require a site visit, such as those with minimal impacts, or if the season is such that a site visit would not yield necessary information. For these projects, the photo log and aerials may suffice to provide the information needed to make PSR level comments. However, the level of field effort will generally fall into one of two categories:

1. Windshield survey only - Use this level of effort for larger projects where a windshield survey is the most practical method; and
2. Windshield survey and on-the-ground surveys - This approach is best used for projects with potentially sensitive resources when additional information is necessary. On-the ground surveys may be needed to examine specific resource issues. NOTE: Although the K phase is not resourced to do the level of surveys needed for environmental compliance, exceptions should be sought if detailed information is required to make an informed decision.

The level of effort required for a specific project will be left to the professional judgment of the specialist and Generalist.

6. CONTENTS OF THE PEAR

Keeping in mind the purpose of the PEAR, conciseness and brevity are important characteristics. The intent is not to create a cumbersome volume of paper to accompany every PSR, but rather to clearly outline and estimate the, cost, scope, and schedule for achieving PA&ED, or in the case of a standard PSR, the cost, scope and schedule for the project. This information needs to be presented in a clear, recoverable manner for inclusion in the PSR. After completion of the specialists' reports, the Generalist compiles the data and writes the PEAR.

The PEAR includes several key sections. Exhibit 2 provides a sample PEAR format that incorporates all of the essential elements of a PEAR.

PEAR CONTENTS SUMMARY TABLE

- **Project Information** (Co-Rte-KP/PM, EA, Project Manager)
- **Project Description** (Description of work, purpose & need, alternatives)
- **Anticipated Environmental Approval** (Type of documentation and timeline)
- **Summary Statement** (This statement would go directly into the PSR or PSR-PDS)
- **Special Considerations** (e.g., NEPA/404, seasonal constraints, Section 7, and data shortcomings,)
- **Mitigation** (Description and cost, refers to Attachment A) (For standard PSRs only)
- **Permits** (Include timelines for acquiring permits)
- **Disclaimer** (Canned statement for all PEARS)
- **Reviewed by** (Signature block for Program Manager and Environmental Office Chief)
- **Summary Checklist**
- **Discussion of Technical Review** (Includes all subcategories in the checklist)
- **List of Preparers** (Environmental Planner Generalist and specialists)
- **PEAR Mitigation Cost Estimate** (Attachment A of the Sample PEAR) (For standard PSRs only)
- **Resources by WBS Codes** (Attachment B of the Sample PEAR)

Project Information / Description - The PEAR includes a concise description of the proposed project, including purpose and need and all proposed alternatives. The Project Manager, Project Engineer, Environmental Office Chief (or designee), and Generalist are identified.

Anticipated Environmental Documentation / Estimate of Time Need to Complete Environmental Compliance - Based on the project information and the specialists' reports, the Generalist will make a preliminary determination as to the type of environmental documentation and prepare a schedule/workplan which summarizes the tasks, resources, and estimated time needed to complete environmental documentation and approval for the project.

Summary Statement - The next section of the PEAR presents a summary, prepared by the Generalist, summarizing the anticipated type of environmental documentation, the environmental process, focused studies, any special considerations, and the estimated time for the completion of the environmental documentation and compliance. Make this statement brief and concise since it is to be placed verbatim in the PSR.

Identify special considerations such as construction constraints due to work windows, NEPA/404 process, Section 7, etc. Discuss any potential mitigation measures, including incorporating features into the project to avoid, minimize, or rehabilitate project impacts for all project alternatives. Estimate mitigation costs (define what mitigation costs are: reduction of a significant effect, measures to minimize harm, permit requirements, above what would normally be expected (erosion control, avoidance of unstable materials, dust control, traffic control, etc.), timelines, schedules, and monitoring since these elements may have a critical bearing on the cost, schedule, and funding source for the project, the selection of the preferred alternative, and the type of environmental documentation required. For standard PSRs, prepare mitigation cost estimates for each alternative when projects have multiple alternatives. (The estimate should reflect those costs above what would normally be expected of a construction project.) Summarize any regulatory permits needed for the project with the costs and schedules estimated. Also enter the

estimated and summarized mitigation and permit costs into the table: **Attachment A - PEAR Mitigation and Compliance Cost Estimate** in the Sample PEAR (Exhibit 2).

Disclaimer - The PEAR contains a disclaimer statement (an example is presented in the sample PEAR) to clearly state that the PEAR is not an environmental document and that the PEAR represents a preliminary and cursory analysis of potential issues and effects for project scoping and programming purposes only. Any changes in the project scope or environmental laws, processes, or permit requirements after the completion of the PEAR will require additional evaluation later in the project development process.

Signature Blocks - The next element contains the “reviewed by” and “approval” signature blocks for the Chief, Office of Environmental Analysis and the Project Manager.

Summary Checklist - A checklist of the environmental technical reports or studies anticipated for the project introduces the technical section of the PEAR. It provides a checklist summary of the specialists’ reports presented in the following section. The checklist identifies the areas that require special studies, documentation only, or need no further evaluation.

Discussion of Technical Review - Following the checklist, a discussion of the technical review presents summaries of all specialists’ reports, studies, and evaluations prepared for the PEAR. To reduce the paper volume of the PEAR, retain the more extensive reports prepared by the specialists in the project file. The order of the report summaries presented in this section follows the checklist order.

Preparers - A list of preparers follows the technical review section.

Mitigation Cost Estimate – For a standard PSR, the two final sections of the PEAR provide important tabular data, which is critical in estimating the cost and schedule of the project. The first, Attachment A, is a table called the “**PEAR Mitigation Cost Estimate.**” This table follows the same format required for mitigation cost tracking in the preparation of the environmental document.

Estimate of Resources by WBS Code - The last section, Attachment B - “**Resources by WBS Codes**”, provides the information necessary to estimate Capital Outlay Support (COS) personnel costs. This information is used in Work Breakdown Structure (WBS) to develop the project workplan and schedule. Based on input and estimates received from the specialists’ reports, this section requires the Generalist to input the estimated personnel costs in hours (by WBS code) required for the completion of the environmental process. The Generalist enters this information in the appropriate WBS field within the spreadsheet.

7. ENVIRONMENTAL SPECIALITY AREAS

CULTURAL RESOURCES (To be performed by a Cultural Resource specialist qualified in the resource type being addressed, assisted by HQ-DEA staff as needed.)

The Cultural Resource specialist is responsible for carrying out three main tasks: 1) background research; 2) fieldwork; and 3) report preparation.

First, a background literature search should be performed and various agencies (i.e., Regional Information Centers), organizations (i.e., local tribal councils), and individuals (i.e., local historians) are contacted. The next part of the study is the fieldwork. For small projects, on the ground, detailed examinations may be prudent. For larger projects, however, a windshield survey may be more appropriate.

Following the pre-field research and fieldwork, the specialist will prepare a report of their findings. The report will list the records consulted, contacts and what was learned, note the type of survey(s) performed, project setting and sensitivity of the cultural resources. Include a section describing each cultural resource identified by the background search and fieldwork. Discuss the effects that the project might have on resources within or adjacent to the project area. In addition, explain the permits, approvals and/or coordination which must be completed and provide an outline of a time schedule for such coordination, including completed Section 106 compliance. Conclude with a summary paragraph for inclusion in the PEAR. Note any potential cultural resource issues that might affect the alternatives, cost, or viability of the project. Delineate all known cultural resources or possible areas of resource sensitivity with due regard to the security of the information on the layout provided by the coordinator and attach it to the report.

CULTURAL RESOURCES

- Conduct a Background Literature review, including a Records Search with the appropriate Information Center
- Perform a windshield and/or on the ground survey
- Contact the District Native American Coordinator (NAC) for information on Native American interests (e.g., sacred sites, gathering sites, buried sites.)
- Prepare a Report
 - Setting and Sensitivity to Resources
 - Cultural Resources Identified
 - Potential Effects and Potential Mitigation Measures
 - Rough Mitigation Cost Estimates(for standard PSRs only)
 - Contacts/Sources Consulted
 - Recommendations
 - Summary
 - Resource estimate by WBS activity code
 - Time estimate for delivery of studies

BIOLOGICAL RESOURCES (To be performed by the Natural Resources Specialist.)

The project Biologist performs background research, fieldwork, evaluation, and reporting. The fieldwork may be a windshield survey, photo log/aerial photo survey, and/or “on-the-ground” survey depending upon the size and complexity of the project.

Include a summary of the background literature review and the findings of the survey in the report along with a list of the contacts made and sources consulted prior to the survey placed in the study. Identify the type of survey completed and provide a brief description of the setting and sensitive biological resources present.

Identify in the report specific studies or focused surveys needed, and those that must be performed at certain times of the year or in accordance with a specified protocol. Include an explanation of required coordination (e.g., Section 7) with other agencies and a proposed timeline for completion of that coordination. Note any required permits, agreements, or approvals which will be necessary (e.g., 401, 404, 1601). In the preliminary evaluation, consider whether the proposed project may require an individual 404 permit or qualify for a Nationwide Permit.

Discuss what potential effects the project may have on biological resources, their significance, and mitigation measures that might be necessary. For standard PSRs, identify potential changes to the project scope or costs driven by biological mitigation, such as, wetland mitigation, compensatory or replacement habitat acquisition, and habitat restoration. Provide associated cost estimates and preliminary schedules for mitigation acquisition, design, construction, and monitoring for inclusion in the PSR.

Provide a summary of the report for inclusion in the PEAR, including a clear statement of issues that may affect the viability or schedule of the project. Include the delineation (approximate) of all known sensitive biological resources on or near the project.

BIOLOGY

- Conduct a Literature Search
- Perform Appropriate Level of Survey
- Prepare a Report
 - Setting and Sensitive Biological Resources
 - Specific Surveys – Schedule and Protocol
 - Agency Contacts, Sources Consulted, Coordination
 - Potential Effects and Potential Mitigation Measures
 - Rough Mitigation Cost Estimates and Schedules (for standard PSRs only)
 - Permits Required
 - Summary and Draft Delineation (map or diagram)
 - Resource estimate by WBS activity code
 - Time estimate for delivery of studies (including seasonal field surveys)

SOCIOECONOMIC / COMMUNITY IMPACT (To be performed by the Socioeconomic Specialist, qualified Generalist, or appropriate HQ-DEA staff depending on the size and location of the project.)

The Socioeconomic Specialist will also conduct a prefield background literature search (e.g., previous environmental documents) and make contacts with outside agencies (e.g., city planning departments). In most cases the fieldwork will be limited to a windshield survey.

The preliminary analysis should be performed to identify community impact issues and to set the scope of subsequent community impact/socioeconomic analysis as outlined in Community Impact Assessment, Volume 4 of the Environmental Handbook. Include the results of the background literature review and the fieldwork in the report. Discuss the existing social and economic structure of the area, the types and numbers of structures occurring in the project area (residential/commercial), number and type of structures impacted and amount of relocations necessary, if any. Address the impacts to neighborhoods, business districts, ethnic, disabled or other minority groups. Note any agency coordination that may be necessary including city and county government interaction and any permits and approvals required. Provide a tentative schedule for completion of coordination and make recommendations for avoidance or possible mitigation that may be necessary. Include the type and magnitude of the socioeconomic study necessary for an environmental document. Provide a report summary statement for inclusion in the PEAR. Describe any situations that might affect project schedules or the viability of the project. Delineate on the map provided by the Generalist the location of possible socioeconomic impacts.

SOCIOECONOMIC / COMMUNITY IMPACT

- Conduct a Background Literature/Document Search
- Perform a Windshield Survey
- Prepare a report
 - Existing Social and Economic Structure
 - Structure Types and Numbers
 - Potential significant impacts
 - Agency Coordination
 - Recommendations
 - Summary
 - Resource estimate by WBS activity code
 - Time estimate for delivery of studies

NOISE (To be performed by Qualified Environmental staff)

The specialist evaluating these resources will conduct a background document review of the project vicinity and make any necessary contacts with outside agencies and individuals. Perform a windshield survey of the project.

The report written by the Noise Specialist will include the results of the background research and fieldwork. Describe the project setting and identify potential sensitive receptors. Discuss possible impacts and mitigation that might be needed. Indicate in the report if participation by other agencies is necessary and if any permits are required. Finally, make any appropriate recommendations and summarize the report, identifying any circumstances that have the potential to affect the viability or schedule of the project. Include a resource estimate by WBS activity code for completing studies needed for environmental compliance and a time estimate (weeks, months) for delivery of the Noise Study for the environmental document. On the aerial map provided by the Generalist, indicate any sensitive receptors or other impacts and attach it to the report.

NOISE

- Conduct Background Document review
- Perform a Windshield survey
- Prepare a Report
 - Project Setting / Sensitive Receptors
 - Potential Impacts
 - Potential Abatement (for standard PSRs only)
 - Monitoring
 - Agency Coordination
 - Recommendations
 - Summary
 - Resource estimate by WBS activity code
 - Time estimate for delivery of studies

AIR QUALITY (To be performed by Qualified Environmental staff)

The specialist evaluating these resources will conduct a background document review of the project vicinity and make any necessary contacts with outside agencies and individuals. Perform a windshield survey of the project.

The report written by the Air Quality specialist will include the results of the background research and fieldwork. Describe the project setting, including the Air Quality Attainment/ Maintenance Plan status and the project RTP/RTIP conformity. For standard PSRs only, discuss possible impacts, mitigation, and any long term monitoring that might be needed. Indicate in the report if participation by other agencies is necessary and if any permits are required. Finally, make any appropriate recommendations and summarize the report, identifying any circumstances that have the potential to affect the viability or schedule of the project. Include a resource estimate by WBS activity code for the completion of studies for environmental compliance and a time estimate (weeks, months) for delivery of the Air Quality Study for the environmental document. On the aerial map provided by the Generalist indicate any sensitive receptors or other impacts and attach it to the report.

AIR QUALITY

- Conduct Background Document review
- Perform a Windshield survey
- Prepare a Report
 - Project Setting / Sensitive Receptors
 - Air Quality/Maintenance Plan Status and Project RTP/RTIP Conformity
 - Potential Impacts
 - Potential Abatement (for standard PSRs only)
 - Monitoring
 - Agency Coordination
 - Recommendations
 - Summary
 - Resource estimate by WBS activity code
 - Time estimate for delivery of studies

PALEONTOLOGICAL RESOURCES (To be performed by the Caltrans District/Region Paleontology Coordinator, private consultant, or other responsible party as assigned by the Environmental Branch Chief.

Evaluation of potential paleontological resources/issues will include a review of databases and/or a background document review, as well as contact with any necessary outside agencies, museums, universities, and individuals. Conducting a windshield survey of the project, if appropriate, follows this work.

The Paleontology Coordinator, consultant, or contact liaison will prepare a report detailing the geologic and paleontological setting of the project as well as the results of database/background/contact review. The report should also discuss any agency coordination and permits that may be required (e.g., permits to conduct investigations on UDSI, Bureau of Land Management, USDA, Forest Service, or DOD/Army Corps of Engineers administered lands). Finally, the package should include a summary for inclusion in the PEAR, along with estimates of the hours and time spans required to conduct studies for the

environmental document by WBS code. The locations of any constraints that should be considered during preliminary design should also be illustrated on the aerial maps provided to Environmental by Design.

PALEONTOLOGICAL RESOURCES

- Conduct a review of databases, background documents, and contact outside agencies/individuals as necessary in order to assess paleontological potential of project area.
- Perform windshield survey
- Prepare a Report
 - Geological and paleontological setting of project
 - Databases, background literature reviews, and contacts
 - Recommendations, Constraints, and Coordination Requirements
 - Summary for inclusion in the PEAR
 - Time estimates per WBS code
 - Delivery Estimate for studies
 - Consultant Hours for Studies
 - Estimates for contract development, award, and oversight.
 - For Full PSRs ONLY
 - Monitoring and/or mitigation plan and cost estimate(s), including development, award , and oversight time/costs factors.

WATER QUALITY (To be performed by the Water Quality Specialist, NPDES Coordinator and/or Project Biologist)

Evaluation of potential water quality issues includes a background document review for the project area and contacts with any necessary outside agencies and individuals. Conducting a windshield survey of the project follows this work.

Include in the report a description of setting in terms of hydrology, the findings of background research and field work, and identify any bodies of water, drainages, rivers, and streams that might be impacted. Reference in the report any basin plans that are in effect and what discharge conditions may be present that could effect the project design, scheduling or construction techniques. Discuss any agency coordination and permits that may include required mitigation measures. Prepare a summary for inclusion in the PEAR and estimate the hours and time span required to conduct studies for the environmental document by WBS activity code. On the aerial map provided by the Generalist, indicate the location of any constraints that should be considered during preliminary design by the Project Engineer.

WATER QUALITY

- Conduct a Background Document Review
- Perform Windshield or Ground Survey
- Prepare a Report
 - Describe project setting
 - Identify Basin Plans/water quality standards
 - Describe potential impacts and information required
 - Agency Coordination
 - Recommendations
 - Summary
 - Mitigation Cost Estimate (standard PSRs only)
 - Time Estimate per WBS codes for studies

- Delivery estimate for studies

FLOODPLAIN (To be performed by the a qualified hydraulics specialist)

Evaluation of floodplain issues includes a background document review of the project area, review of the FEMA/ National Flood Insurance Program flood maps and contacts with any necessary outside agencies and individuals. This work may be followed by conducting a windshield survey of the project, if necessary.

Include in the report a detailed description of the project setting in terms of hydrology and floodplain issues. Describe possible impacts to local hydrology and identify further studies that will be required. Other potential issues must be discussed including any agency coordination and any permits that may be necessary. Include any preliminary constraints and recommendations with regard to project design, as well as a description of any anticipated mitigation measures and associated costs. Prepare a summary paragraph for inclusion in the PEAR and an estimate of the hours and time span required to prepare floodplain studies for the environmental document by WBS activity code. On the aerial map provided by the Generalist, indicate the location of any project constraints and FEMA floodplains, etc.

FLOODPLAIN

- Conduct a Background Document Review
- Review Floodplain Maps
- Perform Windshield or Ground Survey
- Prepare a Report
 - Description of Hydrology and Project Setting
 - Impacts to Local Hydrology
 - Presence of Floodplains
 - Identify Need for Studies
 - Agency Coordination
 - Recommendations
 - Mitigation and Cost Estimates (for standard PSR only)
 - Resources Estimate by WBS Activity Code
 - Studies Delivery Estimate
 - Summary

HAZARDOUS WASTE (To be performed by a qualified Hazardous Waste Specialist)

Evaluation of hazardous waste issues includes a background document review of the project area, and an Initial Site Assessment (ISA) as well as contacts with any necessary external agencies and individuals. The ISA consists of a search of existing recorded sites, a search of the most current Hazardous Waste and Substance Site List and a field review.

Summarize the findings of the ISA in the report and identify potential sites and their risk ranking for each alternative. Identify those high risk ranking sites which would likely require a Preliminary Site Investigation (PSI) during the Project Initiation Phase and those sites of lower ranking for which such investigation would be done in the Project Report Phase. Other potential issues must be discussed including any agency coordination and any required permits that may be necessary. Include preliminary

constraints and recommendations with regard to project design and a description of any anticipated mitigation measures and their costs as well as, a summary for inclusion in the PEAR and an estimate of the hours and time span required to evaluate hazardous waste issues for the environmental documentation by WBS activity code. On the aerial map provided by the Generalist indicate the location of any hazardous waste sites that may require further investigation.

HAZARDOUS WASTE

- Conduct a Background Document Review
- Consult with outside agencies
- Conduct an Initial Site Assessment (ISA)
- Perform Ground Survey
- Prepare a Report
 - Results of background review
 - ISA
 - Presence of Floodplains
 - Identify potential sites and need for Preliminary Site Investigation (PSI) (High-risk sites may require PSI for the PEAR)
 - Agency Coordination
 - Recommendations
 - Mitigation and cost Estimate (for standard PSRs only)
 - Resources Estimate by WBS activity code
 - Report Delivery Time
 - Summary

SCENIC AND VISUAL RESOURCES (To be performed by a qualified Landscape Architect.)

The Scenic and Visual Resources evaluation for the PEAR consists of a background document review of the project area and contacts with any appropriate external agencies and individuals. The fieldwork may be either a windshield survey or an on-the-ground examination. The former will be most applicable for large projects and in cases where time is a critical factor.

A report evaluating the impacts (if any) of the project on scenic and visual resources is less detailed than a complete Visual Impact Assessment, but adequate to determine the scope of the Visual Impact Assessment if one is needed. Include an overview of the visual environment and the scenic resources in the project area in the report. For example, is the route a designated Scenic Highway? Identify changes and any adverse visual impacts that might be introduced by the project as well. Describe possible agency coordination, including city, county or regional government (e.g., RTPAs/MPOs) interaction, and any permits and approvals which might be required. Provide an outline of a tentative schedule for completion of such coordination or obtaining necessary permits/approvals. Make recommendations for further studies and any mitigation measures applicable. A concise summary, which may be inserted into the PEAR prepared by the Generalist, concludes the report. The summary contains a clear statement of any possible situations which may cause project delay or change the type of environmental document. Identify the location of potential impacts on the map provided by the Generalist and attach it to the report. Provide an estimate of the hours and time duration required to prepare the Visual Impact Assessment by WBS activity code.

SCENIC/VISUAL RESOURCES

- Conduct a Background Document Review
- Perform a Windshield or on The Ground Survey
- Prepare a Report
 - Existing Visual Environment and Scenic Resources
 - Visual Impacts
 - Agency Coordination
 - Recommendations
 - Summary
 - Resource estimate by WBS activity code
 - Time estimate for delivery of studies

8. RESOURCES BY WBS CODE (Exhibit 2: Sample PEAR - Attachment B)

Caltrans uses various tools to plan and track projects as they progress through the project development process from inception to completion. One of the tools utilized – Work Breakdown Structure (WBS) – allows the Project Manager to identify resources and timeframes necessary to provide products related to the delivery of the project. In the case of a standard PEAR, hours are estimated for the completed environmental documentation, permits, final PS&E, mitigation, construction, mitigation monitoring, and the sub-tasks required to complete these activities. A PEAR prepared for a PRS-PDS estimates the hours for developing the project through Project Approval & Environmental Document (PA&ED) and other project development support tasks, as appropriate.

WBS is available in the *Guide to Caltrans Work Breakdown Structure*, release 5.1, April 2001. This handbook is also available on the Intranet, which should be checked for the latest updates. This manual contains a brief explanation of the reasons for, and methods of, project resourcing and scheduling. It also contains definitions of the activity codes, which are necessary for completing this portion of the PEAR. It is imperative that the person responsible for completing this section of the PEAR understands the project development process and how projects are scheduled and resourced.

Two key issues need to be estimated in this section of the PEAR. First, the Generalist must estimate the amount of hours necessary to complete the identified level 5, 6, and 7 WBS tasks which take into account estimates provided by the technical specialists. Relying on experience and/or in consultation with the various specialists who are responsible for those types of activities once the project is programmed provides the requisite level of accuracy. The *Guide to CT WBS 4.0* contains a methodology on page 14 *et seq.* for estimating the task hours, called the Program Evaluation and Review Technique (PERT), which is an adjusted “best guess” method. (Remember: this is a Preliminary evaluation and will be subjected to adjustment as the project progresses). Generally, there is a tendency to underestimate the number of hours to perform the various tasks.

The second, and more difficult of the two issues is defining the start and end dates for the various WBS activities. These dates need to be developed and agreed to in consultation with the various specialists, the Project Engineer and the Project Manager. The results should be mutually agreed to by all parties and be neither overly realistic nor pessimistic. At the PSR (K phase), project milestones may have been identified and tentatively scheduled to assure on-time project delivery. Conflicts with these milestones need to be resolved by revising the milestone dates, or by fitting the task dates within the project schedule. Project management software project such as FastTrack or Microsoft Project can be of great

assistance in identifying these relationships. Each of these products is capable of producing a Gantt Chart showing these relationships, which can be inserted into the PEAR as a graphic depiction of the duration of WBS activities and the projected schedule for delivery of environmental products. An example of a Gantt Chart showing WBS environmental activities has been included as Attachment C.

Following are two simplified examples of how entries are made into the WBS fields:

Example 1: A project requires a United State Fish and Wildlife Service (USFWS) protocol focused survey for an endangered plant species. The biologist estimates that the survey will take 3 site visits of one day each, each year for two years in the month of May. The write up and consultation under Section 7 will take an additional 80 hours to complete over a 6-month period. Estimates should include travel time as well on-the-ground site-specific timeframes.

In the Resources by WBS Code spreadsheet, the entries for this example are as follows: WBS level 6 - 165.15 "Perform Biological Studies" will have 24 hours with a start date of 5/00 and an end date of 6/01. WBS level 7 - 165.15.05 "Perform Biological Assessment" will have 80 hours with a start date of 6/01 and an end date of 12/01 (to allow agency time to complete Section 7).

Example 2: A project will impact approximately 2 acres of wetlands, and no avoidance alternative exists. Part of the environmental evaluation will require NEPA/404 MOU coordination, the development of a wetland mitigation plan, mitigation right-of-way acquisition, and plan implementation including post-construction monitoring for five years. During the preparation of the biological portion of the PEAR, the biologist provides estimates for: the wetland delineation – 40 hours, plan preparation and agency negotiations – 120 hours, surveys to locate and identify appropriate mitigation parcels – 80 hours, construction monitoring of the mitigation site – 80 hours, annual monitoring and reporting – 24 hours per year for the following five year period. The project is scheduled to commence at the beginning of the fiscal year (which, based on past history, is also sometimes a "risk" factor and should be identified as such). PAED is scheduled 1 year later.

In the Resources by WBS Code spreadsheet, the entries for this example are as follows: WBS level 7 - 165.15.10 "Perform Wetlands Studies" has 220 hours with a start date of 7/00 and an end date of 7/01. WBS level 7 – 165.15.15 "Perform Resource Agency Permit Related Coordination" has 20 hours (a "best guess" split-off from the 240 hours it will take to complete the wetland studies and coordination). WBS level 6 – 235.05 "Perform Environmental Mitigation" has 0 hours because the mitigation in the example can be clearly attached to a level 7 Code. WBS level 7 – 235.05.15 "Perform Biological Mitigation" has 80 hours with a start date and end date the same as the construction milestones. WBS level 6 – 235.35 "Perform Long Term Mitigation Monitoring" has 120 hours with a start date of one year after the end of construction and an end date 5-years later.

In the second example, the Generalist must consult with the Project Manager and Project Engineer to discuss any needed changes in the project schedule, cost, funding, activities related to other project milestones, such as right-of-way, geotechnical, hydraulics, etc., and additional design work related to the wetland mitigation. These details are often overlooked, but they can have serious consequences on the funding, schedule or delivery of a project.

If the scheduling of the tasks in the Resources by WBS Code spreadsheet is in conflict with the proposed milestones for project delivery, these conflicts need to be clearly identified in the PEAR and should be resolved by the Project Manager.

EXHIBIT 1

STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION ENVIRONMENTAL STUDY REQUEST

TO: (Name of Environmental Senior)	Date of Request:	Action Requested: <input type="checkbox"/> Preliminary Environmental Assessment Report (PEAR) (PSR/PSSR Information) <input type="checkbox"/> Environmental Approval	
Division :			
From: (Name)	Charge Unit/EA ¹	Unit:	Date Required:
CO/RTE/KP/PM ²		Source of Funding (needed to ensure compliance w/NEPA &/or CEQA) <input type="checkbox"/> State <input type="checkbox"/> Federal	
Project Description and Purpose (i.e., need/justification statement - be specific, using back of form if necessary):			

DOES THE PROJECT INVOLVE ANY OF THE FOLLOWING? (RESPOND TO EACH ITEM: Y OR N) IF SO, DELINEATE ON AN ATTACHED MAP, PLAN OR LAYOUT AND INCLUDE ANY ADDITIONAL PERTINENT INFORMATION³:

(NOTE: INITIATION OF ENVIRONMENTAL STUDIES CANNOT PROCEED UNTIL THIS INFORMATION IS PROVIDED)

	Realignment New alignment		Removal of trees: Quantity: _____ (Attach list of species and diameters if known)
	Work off the paved roadway		Any vegetation removal
	Trenches, grading, or other ground disturbance (Attach map delineating all work planned outside the existing cut slope and all work outside the toe of fill.)		Seasonally wet areas, drainage's, or areas of standing water or flooding
	Drainage work or alterations (all types)		
	Construct access roads		Work on USFS, State Park, National Park, or other publicly owned lands
	Detour: Is the detour off the existing pavement? (if Yes, Attach Plan)		Structures on or adjacent to the proposed right of way
	Temporary construction easements		Utility relocation

¹ The EA must be master filed before requesting environmental studies.

² Should encompass entire length of project including area for construction signs. MUST INCLUDE KILOPOST/POSTMILES.

³ If certain information is not yet available, specify date it can be provided.

EXHIBIT 1

	Work in channel (i.e., channel change, stream diversion, excavation, pile driving, falsework, stockpiling, culvert work, rock slope protection, etc.)		Material site(s): Location & Quantity needed:		
	Bridge piers: New or Work on existing piers:		Disposal site(s): Location & Quantity of excess:		
<input type="checkbox"/>	ADDITIONAL RIGHT OF WAY REQUIRED No. Acres () No. of Parcels Impacted () <i>(Attach Rights of Entry if Applicable)</i>	PROJECT LOCATION ON USGS QUAD <div style="display: flex; justify-content: space-between;"> Quad Name Township/Range </div> <div>Sections</div>			
ADDITIONAL DOCUMENTS		ATTACHED	ADDITIONAL DOCUMENTS		ATTACHED
					DATE AVAIL.
Project Location Map *			Project Study Report, Project Report		
Preliminary Plans - Layouts*			Flood Plain Encroachment Evaluation		
Typical-Cross Sections *			Specs (i.e., clean & paint bridge work, etc.)		
Borrow/Disposal Site Location Map			Photos/Video (Avail. in Rm. # _____)		
ADDITIONAL INFORMATION:					

* Must be attached to form.

EXHIBIT 2 – SAMPLE PEAR



Preliminary Environmental Analysis Report

{SAMPLE}

Project Information

District __ County __ Route __ Kilometer Post (Post Mile) _____ EA _____

Project Title: Brief descriptive phrase, e.g., CAPM, Curve Re-alignment, Passing Lane, etc.

Project Manager _____ Phone # _____

Project Engineer _____ Phone # _____

Environmental (Manager) Office Chief _____ Phone # _____

Environmental Planner Generalist _____ Phone # _____

Project Description

Purpose and Need: Write a concise statement of the project purpose and need. Do this with the project proponent. This statement should also be in the PSR.

Description of work: Write a brief summary of the proposed work that will be done. Include work required that is incidental to the project, such as: access roads, utility relocation, de-watering, etc.

Alternatives: Identify all project alternatives (including no-build). If alternatives are no longer being considered, state why. Do not select or identify a preferred alternative. Describe each alternative still under consideration.

Anticipated Environmental Approval

CEQA

☐ Categorical/Statutory Exemption

☐ Negative Declaration / focused ND

☐ **Environmental Impact Report**

NEPA

☐ Categorical Exclusion

☐ Finding of No Significant Impact

☐ **Environmental Impact Statement**

Identify the anticipated environmental document for the proposed project. Identify who should be the CEQA lead agency. Estimate the length of time (months) required to obtain environmental approval and total person hours to complete the identified tasks.-

PSR Summary Statement

EXHIBIT 2 – SAMPLE PEAR

For each practicable Alternative write a brief summary of key environmental issues, studies required, permits, and mitigation. Include a time and cost estimate, and any constraints likely, such as construction windows, biological monitoring, Native American monitoring, acquisition of Permits to Enter, etc.

Special Considerations

For each practicable Alternative summarize any special processes such as NEPA/404, seasonal constraints, Section 7, 4(f) that may effect project delivery and require unusual, exceptional, or extended environmental processes.

Anticipated Project Mitigation (for standard PSR only)

For each practicable Alternative prepare short summary paragraphs for each focused area of mitigation of all anticipated mitigation measures required to reduce, minimize, or compensate for project impacts. Include a cost estimate for each mitigation measure. Summarize the total of all mitigation costs at the end of this section, in the summary statement and on the Mitigation and Compliance Cost Estimate (Attachment A).

Disclaimer

This report is not an environmental document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in this report. The estimates and conclusions provided are approximate and are based on cursory analysis of probable effects. This report is to provide a preliminary level of environmental analysis to supplement the Project Study Report. Changes in project scope, alternatives, or environmental laws will require a re-evaluation of this report.

Reviewed by:

Environmental Office Chief

Date: _____

Project Manager

Date: _____

EXHIBIT 2 – SAMPLE PEAR

Environmental Technical Reports or Studies Required

	Study	Document	N/A
Community Impact Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farmland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 4(f) Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Visual Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floodplain Evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Quality Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paleontology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wild and Scenic River Consistency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cumulative Impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cultural			
ASR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HSR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HASR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HPSR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Section 106 / SHPO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Native American Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other			
Finding of Effect_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data Recovery Plan_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Waste			
ISA (Additional)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PSI	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other			
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biological			
Endangered Species (Federal)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endangered Species (State)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Species of Concern (CNPS, USFS, BLM, S, F)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Biological Assessment (USFWS, NMFS, State)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Invasive Species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural Environment Study	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NEPA 404 Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other			
_____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permits			
401 Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
404 Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1601 Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
City/County Coastal Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Coastal Permit Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NPDES Coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
US Coast Guard (Section 10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EXHIBIT 2 – SAMPLE PEAR

Discussion of Technical Review

*Use brief paragraphs focused on topics that will need environmental review. Indicate the absence of issues to document that they were considered. Follow the Checklist when preparing the summary discussion. Make a separate statement for each viable alternative. **Samples follow:***

Socio-economic and Community Effects. The project is not expected to have any effects on the local community or the economy.

Farmlands. N/A

4(f) Impacts. The project may create 4(f) issues if it results in any temporary or permanent impacts to the following properties.....

Visual Effects. A visual assessment will be required and should include potential project effects and any appropriate mitigation. Design of the upgraded guardrail may require and include visual impact mitigation. Tree removal must be avoided to minimize the effect on the visual setting. Vegetation removed from any properties found to be historically significant may become a sensitive issue.

Water Quality and Erosion. The site should be evaluated for potential water quality impacts associated with the project. If site dewatering is required for new construction, a dewatering plan is required. Site access for construction must be included in any water quality analysis.

Floodplain. A floodplain evaluation report will need to be prepared to analyze the effects of the alterations to the bridge footings on the 100-year floodplain.

Air and Noise. Potential air quality and noise impacts are.... The proposed project is included in the Regional Transportation Plan dated...which has been found to be in conformity with the Clean Air Act State Implementation Plan.

Wild and Scenic River. There is a potential for impact to (name of river), a Federally designated wild and scenic river.

Cultural Resources. An archeological survey will be required for the project. The proposed Area of Potential Effect (APE) must include all access roads, work areas and staging areas beyond the existing paved highway. A historic survey of resources related to... may be required. Any subsequent changes in project scope may require additional archaeological or historical review.

Native American Coordination. The following Native American tribes or groups may have any interest in or be affected by the proposed project...

Hazardous Waste/Materials. An Initial Site Assessment (ISA) will be required to address the potential for hazardous waste. The risk ranking for ... is

Biological Resources. This project may affect sensitive biological resources. Formal consultation with National Marine Fisheries Service on the coho salmon and steelhead will be required. Formal consultation with the USFWS on the tidewater goby and the mountain beaver may be required. The existing bridge should be inspected for the presence/absence of bats, nesting swallows and other protected species. Bird and bat surveys should be completed in the spring/summer season. The California Natural Diversity Data Base (CNDDB) does not indicate

EXHIBIT 2 – SAMPLE PEAR

any other known sensitive biological resources in this location. There are no known sensitive plant species in this location.

Wetlands. A delineation of jurisdictional wetlands and waters of the United States needs to be done. Executive Order 11990 requires an avoidance alternative analysis for wetland impacts unless there is no practicable alternative available. Impacts to waters of the U.S. and wetlands from the project and any temporary access roads will need to be quantified.

Invasive Pest Plant Species. Executive Order 13112 requires that any Federal action may not cause or promote the spread or introduction of invasive species. This project may...

Right-of-Way Relocation or Staging Area. No new Right-of-Way is indicated for this project. Material sites and disposal sites are indicated, but not identified. These areas, which must be identified prior to initiating environmental studies, will require complete environmental evaluation as part of this project.

Mitigation (For standard PSR only). Mitigation for temporary and permanent impacts to sensitive biological resources (wetlands, riparian vegetation, regulated plants and animals) will be required. Mitigation for impacts to waters of the United States and tidewater goby habitat may be required. Construction windows between June 1 and October 15 may be required for coho mitigation, and temporary bat roosts may be required for bats displaced by construction disturbance. Avoidance of swallow nests, or nest exclusion netting may be required from March 1 through August 31. Reasonable mitigation costs are generally considered to be up to 10% of the project cost. For this project, mitigation could include swallow exclusion, restricted construction scheduling, habitat enhancement, habitat restoration, or habitat replacement; the cost of which is estimated to be around \$200,000.

Permits. Permits from the State Department of Fish and Game (1601), U. S. Army Corps of Engineers (an individual 404 Permit will probably be required because wetland/waters impacts may exceed the threshold acreage), U.S. Coast Guard (Section 10), and the Regional Water Quality Control Board (401) will be required. Additional permits for the material site and disposal site may be required.

Coastal Zone. This project is within the County coastal jurisdiction and will require a County Coastal Development Permit. It is not within state coastal jurisdiction nor within state appealable jurisdiction.

List of Preparers

Hazardous Waste Review by	Date
Biological Review by	Date
Cultural Review by	Date
Community Impact Review	Date
Visual Review by	Date
Floodplain Review by	Date

EXHIBIT 2 – SAMPLE PEAR

Attachment A - PEAR Mitigation and Compliance Cost Estimate*(Standard PSRs Only)

Dist.-Co.-Rte.-KP/PM: _____ EA: _____

Project Description: _____

Person completing form/Dist. Office.: _____

Project Manager: _____ Phone number: _____

Date: _____

	Mitigation			Compliance
	Project Feature ¹	Enviro. Obligation ²	Statutory Require. ³	Permit & Agreement ⁴
Fish & Game 1601 Agreement				
Coastal Development Permit				
State Lands Agreement				
NPDES Permit				
COE 404 Permit- Nationwide				
COE 404 Permit- Individual				
COE Section 10 Permit				
COE Section 9 Permit				
Other:				
Noise attenuation				
Special landscaping				
Archaeological				
Biological				
Historical				
Scenic resources				
Wetland/riparian				
Other:				
TOTAL (Enter zeros if no cost)				

- Costs are to be reported in \$1,000's.
- Costs are to include all costs to complete the commitment including: 1) capital outlay and staff support; 2) cost of right-of-way or easements; 3) long-term monitoring and reporting; and 4) any follow-up maintenance.

EXHIBIT 2 – SAMPLE PEAR

¹ Mitigation that Caltrans would normally do if not required by a permit or environmental agreement.

² Mitigation that Caltrans would not normally do but is required by conditions of a permit or environmental agreement.

³ Mitigation that Caltrans would not normally do and is not required by a permit or Enviro. Agreement, but is required by a law.

⁴ Non-mitigation Caltrans would not normally do but is required by conditions of a permit or agreement.

*Prepare a separate form for each practicable alternative in the PSR.

ATTACHMENT B - Resources by WBS Code

WBS Activity	EA: Description:	Senior	Generalist	Biologist	Cultural Resource Specialist	Noise/Air Specialist	Haz Waste Specialist	Socio-Econ Specialist	Total Hours	Sub Totals	Begin Date	End Date
100	PERFORM PROJECT MANAGEMENT								0	0		
100.05	Develop & Manage Schedule & Support Budget								0			
100.05.05	Develop & Manage Initial (PID) Project Schedule								0			
100.05.10	Develop & Manage Baseline Schedule								0			
100.05.15	Develop & Maintain Work Agreements								0			
100.10	Maintain Project Data								0			
100.15	Respond to Internal & External Requests for Information								0			
100.20	Procure External Resources								0			
160	PERFORM PRELIMINARY ENGINEERING STUDIES & PREPARE PROJECT REPORT								0	0		
160.05.30	Review Project Scope								0			
160.15.25	Circulate, Review, & Approve Draft Project Report								0			
165	PERFORM ENVIRONMENTAL STUDIES & PREPARE DRAFT ENVIRONMENTAL DOCUMENT (DED)								0	0		
165.05	Perform Environmental Scoping & Select Alternatives for Study								0			
165.05.05	Review Project Information								0			
165.05.10	Perform Public & Agency Scoping Process								0			
165.05.15	Select Alternatives for Further Study								0			
165.05.20	Prepare Maps for Environmental Evaluation								0			
165.10	Perform General Environmental Studies								0			
165.10.05	Perform Surveys & Mapping for Environmental Studies								0			
165.10.10	Obtain Right or Permit for Environmental Studies								0			
165.10.15	Perform Socioeconomic, Land Use & Growth Studies								0			
165.10.20	Perform Visual Impact Analysis								0			
165.10.25	Perform Noise Study								0			
165.10.30	Perform Air Quality Study								0			
165.10.35	Perform Water Quality Studies								0			
165.10.40	Perform Energy Studies								0			
165.10.45	Prepare Summary of Geotechnical Report								0			
165.10.50	Perform Preliminary Site Investigation for Hazardous Waste								0			
165.10.55	Prepare Draft Right of Way Relocation Impact Document								0			
165.10.60	Prepare Location Hydraulic / Floodplain Study Report								0			
165.10.65	Perform Paleontology Study								0			
165.15	Perform Biological Studies								0			
165.15.05	Perform Biological Assessment								0			
165.15.10	Perform Wetlands Study								0			
165.15.15	Perform Resource Agency Permit Related Coordination								0			
165.15.20	Prepare Natural Environment Study Report								0			
165.20	Perform Cultural Resource Studies								0			
165.20.05	Perform Archaeological Survey								0			
165.20.10	Perform Extended Phase I Archaeological Studies								0			
165.20.15	Perform Phase II Archaeology Studies								0			
165.20.20	Perform Historical and Architectural Resource Studies								0			
165.20.25	Prepare & Process Cultural Resource Compliance Docs.								0			
165.25	Prepare & Approve Draft Environmental Document								0			
165.25.05	Prepare Draft Environmental Document								0			
165.25.10	Prepare Section 4(f) Evaluation								0			
165.25.15	Prepare Cat. Exemption/Cat. Exclusion (CE) Determination								0			
165.25.20	Conduct Environmental PEER & Other Reviews								0			
165.25.25	Obtain Approval to Circulate								0			
175	CIRCULATE DED & SELECT PREFERRED PROJECT ALTERNATIVE								0	0		
175.05	Circulate DED								0			
175.05.05	Prepare Master Distribution & Invitation Lists								0			

WBS Activity	EA: Description:	Senior	Generalist	Biologist	Cultural Resource Specialist	Noise/Air Specialist	Haz Waste Specialist	Socio-Econ Specialist	Total Hours	Sub Totals	Begin Date	End Date
175.05.10	Prepare Notices Regarding Public Hearing & Availability of DED								0			
175.05.15	Publish & Circulate DED								0			
175.05.20	Obtain Federal Consistency Determination (Coastal Zone)								0			
175.10	Prepare for & Hold Public Hearing								0			
175.10.05	Determine Need for Public Hearing Process								0			
175.10.10	Arrange for Public Hearing Logistics								0			
175.10.15	Prepare Displays for Public Hearing								0			
175.10.20	Prepare & Publish Notices of Public Hearing & Availability of DED								0			
175.10.25	Conduct Meeting to Review Map Displays & Discuss Public Wo								0			
175.10.30	Display Public Hearing Maps								0			
175.10.35	Hold Public Hearing								0			
175.10.40	Prepare & Distribute Record of Public Hearing								0			
175.15	Respond to Public Comments & Correspondence								0			
175.20	Select Preferred Alternative								0			
180	PREPARE & APPROVE PROJECT REPORT & FINAL ENVIRONMENTAL DOCUMENT								0	0		
180.10	Prepare & Approve Final Environmental Document (FED)								0			
180.10.05	Prepare & Approve FED								0			
180.10.10	Public Distribution of FED								0			
180.15	Close Out Environmental Process								0			
180.15.05	5 Prepare & Approve Record of Decision (ROD)								0			
180.15.10	Prepare & File Notice of Determination (NOD)								0			
205	OBTAIN PERMITS, AGREEMENTS & ROUTE ADOPTIONS								0	0		
205.05	Determine Required Permits								0			
205.10	Obtain Permits								0			
205.10.05	Obtain U.S. COE Permit (404)								0			
205.10.10	Obtain U.S. Forest Service Permit								0			
205.10.15	Obtain U.S. Coast Guard Permit								0			
205.10.20	Obtain DFG Permit (1601/1603)								0			
205.10.25	Obtain Coastal Development Permit								0			
205.10.30	Obtain Local Agency Concurrence / Permit								0			
205.10.40	Obtain Waste Discharge Permit (NPDES)								0			
205.10.45	Obtain USFWS Approval								0			
205.10.50	Obtain Regional Water Quality Control Board Permit (401)								0			
235	MITIGATE ENVIRONMENTAL IMPACTS & CLEAN-UP HAZARDOUS WASTE								0	0		
235.05	Perform Environmental Mitigation								0			
235.10	Perform Detailed Site Investigation for Hazardous Waste								0			
235.25	Perform Hazardous Waste Clean-Up								0			
235.35	Perform Long Term Mitigation Monitoring								0			
255	CIRCULATE, REVIEW & PREPARE FINAL DISTRICT PS&E PACKAGE								0	0		
255.15	Perform Environmental Re-evaluation								0			
270	PERFORM CONSTRUCTION ENGINEERING & GENERAL CONTRACT ADMINISTRATION								0	0		
270.05	Prepare Resident Engineer's File								0			
285.10	Environmental Support for Construction								0			
Total Hours		0	0	0	0	0	0	0	0	0.0 PYs		

Attachment C – Sample Gantt Chart EIS schedule

